



Dry facts

...from Arctic India Sales

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PLASTICS..... THE SUNRISE INDUSTRY



The Petrochemical Industry particularly plastics, has been recognised by the Government, as a high development, high growth area — a Sunrise Industry. A modest beginning was made in the early forties, when the first thermoplastic processing unit was set up. Since then it has been the saga of growth with each progressing decade — especially the 80's, which was decade of tremendous rise in consumption in existing and newly development applications.

Plastics for Progress

Plastics are truly the 'metal' of this century. Light weight and easily processed, its chemical resistance and tailored properties have endowed it with an amazing versatility. To maintain these highly vaunted qualities, plastic resins need to be completely moistureless before being processed. Plastics resins are highly hygroscopic and absorb moisture from the atmosphere during storage or before being processed, which adversely affects the final quality of the moulded part. Even non-hygroscopic plastics are susceptible to surface moisture contamination that should be removed before processing. Improper drying leads to poor surface quality, loss of physical properties, splay, silver streaking, internal bubbles, surface defects etc. Hence proper drying of plastic resins is the first critical step towards defect free moulding. Bry Air Plastic Dryers offers the ultimate in plastic drying. Bry Air desiccant based dehumidifiers and other auxillary equipment makes plastic handling easier and better.

PLASTINDIA90 — THE PLASTICS SHOW OF THE YEAR

Arctic India Sales was present at the show with its wide range of plastic auxillary equipment. Special introduction at the show were the Hopper Dryer, the Vortex Loading System, the small resin dryer RD.50 and the Large Volume Dryer LVD. The show was a big success for the company and Bry Air engineers, renewed and strengthened its ties with the industry of the day.



ARCTIC INDIA STALL AT PLASTINDIA

ACREX — THE ASHRAE SHOW OF INDIA

The AC & R industry in India is briskly trying to catch up with development in advanced countries like USA, Europe and Japan. Acrex focused the nation's attention to one of the most exciting and fast growing industries today — **Air conditioning and Refrigeration**. The state of the art technologies in AC & R and its allied industry was very much in evidence in the show. The participant list read like the who's who in AC & R industry.

'Heat Wheel' or Total Recovery Wheel for harnessing Waste Heat. The Heat Wheel recovers both sensible and Latent heat and is ideal for 100% fresh air applications like hospitals, animal research rooms, auditoriums etc.

The wheel complements the company's existing range of heat pipe based Heat Exchanger.

INDONESIA - A VAST MARKET

Indonesia's extraordinary economic growth and transformation into an industrial economy has created significant scope for investment, exports, joint ventures and collaborations. Indonesia has been taking positive measures to strengthen its supporting infrastructure and has been quickly developing growth oriented and high tech industries like Fertilizers, Petrochemicals, Rubber, Pharmaceutical, Food, Chemicals, etc. The main imports to the country are machinery and equipments.

Financial Express, March 13, 1990 Page
Bry-Air tech for energy recovery

BRY-Air now offers for the first time in India, the heat wheel for total energy recovery. The heat wheel complements Bry-Air's range of heat pipe based air-to-air heat exchangers, bringing the two most concurrent technologies in the world today. Heat wheel heat exchanger is air-to-air waste energy stream to preheat this reduc-

The Airgineers from Arctic India Sales participated in ACREX with their wide range of airgineering equipment. **At special display was the**

Bry-Air

DECLARES WAR ON HUMIDITY

Bry Air Dehumidifiers in the service of Defence

Rust, mold, mildew, warping, stretching, lumping, agglomeration and decomposition causes unreparable damage to equipment and machinery, arms and ammunition, impairing its availability and reliability. Moisture is the sole cause behind all these visible damages.

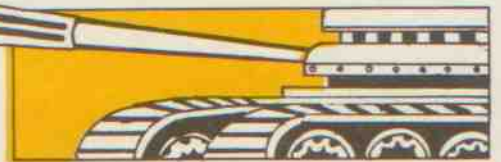
We, at Bry Air, have launched an offensive against this invisible enemy, — in the defence sector. Bry Air is conducting country wide technical seminars in defence organisations for providing an advanced understanding of moisture problems and cost effective solutions — using state of the art dehumidification equipment. We, at Bry Air, have already conducted 7 such seminars in various defence organisations in Chandigarh, Delhi, Cochin, Madras & Bangalore. Similar Seminars in the coming months will be conducted. in Calcutta, Bombay and in other parts of the country.



Senior Defence Officers at Bryair Plant — Defence Seminar.

Would you like a seminar too? If yes, please ask us for the details of the seminar at the following address:—

Advertising Deptt.,
Arctic India Sales
20-Rajpur Road Delhi- 54.



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Indonesia is a promising market for India. With a view to explore this highly promising market CEI in cooperation with TFAI organised the Indian Industrial Exhibition in January this year. The exhibition served to open many unexplored avenues to the Indian Industry.

Bry Air India with its expertise in the Airgineering Technology was Key participater in the Exhibition. The exhibition strengthened Bry-Air's existing ties with Indonesia and forged new ones. Bry Air's product range of air drying equipment like, dehumidifiers, plastic dryers, compressed air dryers find wide applications in the quickly developing. Indonesian industry.

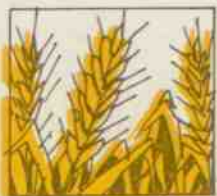
FOOD TALK.....

The food processing industry has been identified as a thrust area for export promotion. Drastic changes were seen in the system of food supply in developing countries in the recent past. The conventional means of harvesting processing and handling are slowly being replaced by improved systems bringing in modernisation.

The Twin Exhibitions — **Ahara '90 and India Pack '90** highlighted the growth potential of India's food industry. **Bry Air** dehumidifiers go a long way in prevention of spoilage, during production, processing, drying and storage of food products. Bry Air participated in Ahara for the second consecutive year reiterating its position in industry.



Bryair at AHARA '90



.....RICHER HARVESTS

The Agricultural and farming techniques in India have greatly augmented the food availability due to application of new technologies. An International Conference on

Seed Science and Technology was held in February this year at Hotel Ashok, Delhi. The seminar cum exhibition helped to highlight the developments in the seed industry. The Arctic India Sales booth, exhibiting panels on seed drying and seed storage generated awareness and commercial interest from the seed scientists and the seed industry.

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Indian Office : 20-Rajpur Road, Delhi 110 054 Name and Address of Owner : **Arctic India Sales**
Vinita Pahwa, hereby declare that the particulars given above are true to the best of my knowledge and belief.

WHEN MOISTURE IS TORTURE !!!

The Best Defence against Moisture

Ready to Take off!

The satellite was ready for its final launch into the orbit. Twenty four hours prior to launch it was moved to the launching pad along with the expendable rocket that would help to park it in the orbit. As zero hour approaches, meticulous final tests on all instrumentation are carried out for certification that it will withstand the rigors of take off and journey into space.

These twenty four hours are crucial to the final launch as the satellite has been shifted from the conditioned environs of the assembly bay into the ambient and exposed to the elements. Temperature differences and uncontrolled levels of humidity leads to condensation. The condensed moisture leads to erratic behaviour of the highly sophisticated and sensitive microprocessor based controls and instrumentation. Even the slightest error could put the entire programme into jeopardy.



The satellite hood which houses the instrumentation needs to be protected against moisture damage. The solution lay in flushing the hood with a continuous supply of cold dry air. Bry Air dehumidifiers were used to supply the dry air. Bry Air dehumidifiers were used to supply the dry air with 40% RH at 10° C.

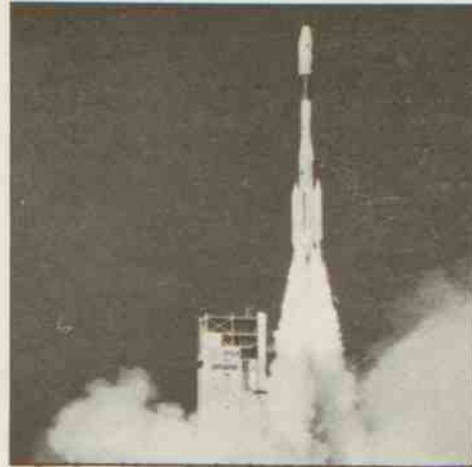
This is not just one stray example of how Bry Air helped to solve the moisture problems in the Defence Industry, but is one example of the uses of dry air could be put to in military applications.

Military preparedness for active service is of prime importance to Armed forces all over the World. All military equipment is high valued and must be available for operation at any time. Storage of steel and metal products presents major problems where air is humid and there is big variation in temperature during the twenty four hour day, causing condensation. In such circumstances corrosion sets in, deteriorating the quality of material.

The need of the Day

As more and more sophisticated and upgradation is being incorporated in military equipment, more and more demands are being placed on environmental conditions. The equipment becomes more and more temperature and moisture sensitive.

Military hardware and equipment in storage like tanks, missiles, ammunition, gearboxes engines and even replacement parts and storage is highly susceptible to changes in humidity.



Spoilage due to mold, mildew and fungal decay of stored uniforms, leather boots, batteries, tyres, maps, records, documents, films, microfilms, foodstuffs and rations result due to condensed moisture on stored material.

Temperature fluctuations can produce wide ranges of humidity leading to condensation and provides a base for organic corrosion to set in. Dehumidification as a technique for preservation against moisture attack is not a new phenomenon to Defence Sector. The most widespread early application was naval warship and the result was so successful that it was adopted as a standard technique and is being applied now for military and industrial warehouse storing parts, subassemblies or finished goods.

Warehouse storage, calls for sealing the space against infiltration as far as practicable and dehumidifiers are strategically placed for controlling the moisture in the storage area. The air temperature inside the building is cool but dry. Cocooning of military equipment for sealing it against much of the external air and using small dehumidifiers to maintain dry environment inside the equipment is also a practical and economical solution for it to be kept rust free and brought into operation quickly. Using dehumidification has two distinct advantages, the dehumidifiers operate around ambient/prevaling room temperature, this is advantages as the storage specifications for most products do not call for temperature control. Dehumidification of a dry air store is only a fraction of the cost, required to keep a heated store at the correct temperature.

Bry Air dehumidifiers have been successfully used by the military the, world over for long term and short term storage providing considerable savings in operating costs, building construction and safer storage.

Bry-Air

dehumidifiers provide the best protection against humidity under all temperature conditions.

COMPRESSED AIR DRYING !!

The Delair Range is here to stay

Delair offers the largest range in compressed air dryers in the country today and has a solution for all compressed air drying problems. Delair has designed the ABC for a dryer selection which at first glance shows you how to go about selecting the right dryer.

1

Check your application

Application	Pressure dew-point	Refrigeration Dryer	Adsorption Dryers				
			Heatless	Heat Regenerated		Energy-less	
				Reduced purge	No loss		
<ul style="list-style-type: none"> Plant air Paint spraying Food General instrumentation Controls Pneumatic tools Chemicals Health care 	2°C to 10°C	Best	Yes	Yes	—	—	
<ul style="list-style-type: none"> Instrument glove boxes Dry air for ozone generators Purging of refrigeration coils and systems Vacuum breaking operations Climatic chambers Paint curing 	0°C to -20°C	X	Best	Yes	Yes	Yes	
<ul style="list-style-type: none"> Instrumentation and controls Plastics Pneumatic transportation Chemicals Cables and wave guides Pharmaceuticals Packaging 	-20°C to -40°C	X	Best	Yes	Best	Yes	
<ul style="list-style-type: none"> Specialised instrumentation Electronic assemblies Wind tunnels Space research Dry boxes - Cryogenics Gas liquification 	-40°C and below	X	Best (for low air flow)	Best (for medium air flow)	Best (for large air flow)	—	
			A	B	C	D	E

2

Check your first cost v/s operating cost

Type of dryer	First cost	Energy cons*/ Operating cost	Energy cons* for 1000 m ³ /hr
A. Refrigeration	Low	Low	2.9 kw
B. Heatless	Low	High	20.7 kw
C. Heat regenerated - Reduced purge	Medium	Medium	18 kw
D. Heat regenerated - No loss	High	Low	12 kw
E. Energyless	High	Nil	—

* Energy consumption calculated — Refrigeration at 2°C, Adsorption at -25°C

3

Check our range

Type of dryer	Model	Capacities	Pressure dewpoint
A. Refrigeration	DI	18 m ³ /hr to 4320 m ³ /hr	2°C to 10°C
B. Heatless	DC	6 m ³ /hr to 1128 m ³ /hr	≧ -20°C
C. Heat regenerated (Reduced purge) (External heating)	PDPA	48 m ³ /hr to 1188 m ³ /hr	≧ -40°C
	DA	192 m ³ /hr to 3540 m ³ /hr	≧ -40°C
D. Heat regenerated - No loss (External heating of ambient)	DB	882 m ³ /hr to 5202 m ³ /hr	≧ -40°C
	DBM	3322 m ³ /hr to 9660 m ³ /hr	≧ -40°C
E. Energyless	XD	546 m ³ /hr to 4500 m ³ /hr	-25°C

Delair makes quality affordable

